QUATERNARY RESEARCH

An Interdisciplinary Journal

EDITOR:
A. L. Washburn

CO-EDITOR:
Joe S. Creager

UNIVERSITY OF HAWAII LIBRARY

Volume 1, 1970-71

LIBRARY USE ONLY

ACADEMIC PRESS
New York and London

Copyright © 1972, by University of Washington

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form by photostat, microfilm, by retrieval system, or any other means, without written permission from the publishers.

Made in the United States of America

CONTENTS OF VOLUME 1

Number 1, September 1970

Editorial: A. L. Washburn. Interdisciplinary Quaternary Research and Environmental history 1

Gerald M. Richmond. Comparison of the Quaternary Stratigraphy of the Alps and Rocky Mountains 3

H. H. Lamb and A. Woodroffe. Atmospheric Circulation during the Last Ice Age .. 29

Cynthia Irwin-Williams and C. Vance Haynes. Climatic Change and Early Population Dynamics in the Southwestern United States 59

Dean A. McManus. Criteria of Climatic Change in the Inorganic Components of Marine Sediments 72

Tadeáš Czudek and Jaromír Demek. Thermokarst in Siberia and Its Influence on the Development of Lowland Relief 103

G. A. Izett, Ray E. Wilcox, H. A. Powers, and G. A. Desborough. The Bishop Ash Bed, a Pleistocene Marker Bed in the Western United States 121

Number 2, April 1971

Richard G. Klein. The Pleistocene Prehistory of Siberia 133

J. C. Duplessy, J. Labeyrie, C. Lalou, and H. V. Nguyen. La Mesure des Variations Climatiques Continentales. Application à la Période Comprise entre 130.000 et 90.000 Ans B.P. 162

David M. Shaw and William L. Donn. A Thermodynamic Study of Arctic Paleoclimatology 175

W. S. Broecker. A Kinetic Model for the Chemical Composition of Sea Water 188

Peter W. Birkeland, Dwight R. Crandell, and Gerald M. Richmond. Status of Correlation of Quaternary Stratigraphic Units in the Western Conterminous United States 208

A. B. Costin and H. A. Polach. Slope Deposits in the Snowy Mountains, South-Eastern Australia 228

Jean Coudray. Nouvelles Données sur la Nature et l'Origine du Complexe Récifal Côtier de la Nouvelle-Calédonie. Etude Sédimentologique et Paléoécologique Préliminaire d'un Forage Réalisé dans le Récif-barrière de la Côte Sud-Ouest 236

G. A. Borchardt, M. E. Harward, and R. A. Schmitt. Correlation of Volcanic Ash Deposits by Activation Analysis of Glass Separates 247

Keith Randle, Gordon G. Goles, and Laurence R. Kittleman. Geochemical and Petrological Characterization of Ash Samples from Cascade Range Volcanoes 261

Number 3, September 1971

Editorial: A. L. Washburn. Quaternary Research and Education 283

Valerius Geist. The Relation of Social Evolution and Dispersal in Ungulates During the Pleistocene, with Emphasis on the Old World Deer and the Genus *Bison* 285

H. E. Wright, Jr. Retreat of the Laurentide Ice Sheet From 14,000 to 9000 Years Ago .. 316

J. C. Ritchie and F. K. Hare. Late-Quaternary Vegetation and Climate Near the Arctic Tree Line of Northwestern North America 331

Irwin Rovner. Potential of Opal Phytoliths for Use in Paleoecological Reconstruction .. 343

Hisao Nakagawa, Nobuaki Niitsuma, and Carlo Elmi. Pliocene and Pleistocene Magnetic Stratigraphy in Le Castella Area, Southern Italy—A Preliminary Report .. 360

H. Alimen. Quaternary Research in France 369

L. D. McGinnis and T. E. Jensen. Permafrost-Hydrogeologic Regimen in Two Ice-Free Valleys, Antarctica, from Electrical Depth Sounding 389

Stephen C. Porter and Robert J. Carson III. Problems of Interpreting Radiocarbon Dates from Dead-Ice Terrain, with an Example from the Puget Lowland of Washington 410

R. G. Barry, J. D. Ives, and J. T. Andrews. A Discussion of Atmospheric Circulation during the Last Ice Age 415

Number 4, December 1971

Gerald M. Richmond. Guest Editorial i

Harold C. Fritts. Dendroclimatology and Dendroecology 419

M. B. Davis, L. B. Brubaker, and J. M. Beiswenger. Pollen Grains in Lake Sediments: Pollen Percentages in Surface Sediments from Southern Michigan 450

Curtis J. Sorenson, James C. Knox, James A. Larsen, and Reid A. Bryson. Paleosols and the Forest Border in Keewatin, N.W.T. 468

R. D. Guthrie and John V. Matthews, Jr. The Cape Deceit Fauna–Early Pleistocene Mammalian Assemblage from the Alaskan Arctic 474

John Whitney, H. P. Johnson, Shaul Levi, and Bernard W. Evans. Investigations of Some Magnetic and Mineralogical Properties of the Laschamp and Olby Flows, France 511

Richard H. Fillon. Possible Causes of the Variability of Postglacial Uplift in North America 522

J. T. Andrews and R. E. Dugdale. Quaternary History of Northern Cumberland Penninsula, Baffin Island, N.W.T.: Part V: Factors Affecting Corrie Glacierization on Okoa Bay 532

Author Index 552

Subject Index 553

QUATERNARY RESEARCH

An Interdisciplinary Journal

EDITORIAL POLICY

uaternary Research is devoted to *interdisciplinary* articles dealing with the Quaternary Period. Edi- l policy requires that articles must be of broad interest, of basic significance to more than one dis- ne, and of high merit. Previously unpublished research results, comprehensive reviews of a field of vledge, and occasional English translations of outstanding articles in other languages will all be con- ed. Generally, articles should be in English, but a small proportion of articles in French, German, Russian will be accepted. Articles should not exceed 5000 words, but exceptions can be made for cially significant contributions. All articles will be reviewed by at least two referees.

anuscripts and figures should be submitted at least in duplicate (a third copy could speed process- to:

Quaternary Research
Editorial Office
University of Washington
Seattle, Washington 98105

ubscriptions. In 1970-1971, Volume 1 (4 issues) will be published. Institutions (including libraries): 00 per volume. For individuals certifying that the subscription is for their personal use only: $10.00 volume. All subscription orders should be addressed to the Publisher: ACADEMIC PRESS, INC., Fifth Avenue, New York, New York 10003.

INSTRUCTIONS TO AUTHORS

General Instructions

anuscripts should be written in clear and concise English and should conform to the general style he journal and the specific instructions listed below. Manuscripts that are not adequately prepared be returned to the authors, since it is not feasible for the Editors to revise or rewrite manuscripts. tributors, particularly those unfamiliar with English usage, are encouraged to seek the help of col- ues in the preparation and review of manuscripts prior to submission. This practice reduces the time ired for review and avoids delays in publication.

rm and Style. Manuscripts should be concise but detailed enough to permit critical appraisal. y should be typewritten and double-spaced throughout (including tables, legends, and footnotes) on side of approximately 22- x 28-cm (8.5- x 11-in.) paper with 2.5-cm (1-in.) margins. Tables and re legends should be typed separately and placed at the end of the manuscript. All pages, beginning the title page and including tables and figure legends, should be numbered consecutively and ened securely. The title page should include the article title, author(s), affiliation(s) and ad- ss(es), and suggestions for index entries. Addresses should include zip codes or postal districts n applicable. All correspondence regarding the manuscript will be made with the person submit- the manuscript.

uthors are requested to include an *Abstract* (50-200 words, typed on a separate page following the page). The Abstract should be a concise and informative summary that can be copied verbatim bibliographies. The title must be suitable for indexing.

nits. Metric units should be used throughout, with English equivalents in parentheses if orig- ly given in English units. When used in conjunction with numerals, units should be abbreviated punctuated (e.g., cm, g, %). Use the American Chemical Society Handbook as a guide.

ootnotes. Footnotes in the *text* should be identified by superscripts consisting of Arabic numerals should be typed on a separate sheet; footnotes in the tables should be identified by superscripts sisting of the lower-case letters a, b, c, etc., and placed at the bottom of the table.

ables. Tables should be denoted by Arabic numerals and be cited consecutively in the text. Each e should be titled and typed double-spaced on a separate sheet. *Units must be clearly indicated for h of the column entries in the table.*

igures. All figures should be denoted by Arabic numerals and cited consecutively in the text, with re legends typed on a separate sheet. Units should be clearly indicated in the figures themselves.

lease Note: All figures are to be submitted in such form as to permit photographic reproduc- without retouching or redrawing, including the lettering. Lettering is reproduced as part of the toengraving and is not set in type. Line drawings should be carefully drafted with black India on white drawing paper or blue drafting cloth, if possible no larger than 22- x 28-cm (8.5- x 11- overall. The lettering should be large enough to allow a 50% reduction. High-quality glossy prints acceptable for drawings and required for photographs. Colored reproductions (either photographs maps) cannot be accommodated unless financed by the author.

References. References should be cited in the text by author's surname and date such as "Doe (1970) reported that . . ." ". . . as previously reported (Doe *et al.*, 1970)." Suffixes (a, b, etc.) should be used to distinguish two or more works by the same author(s) in the same year; *e.g., Doe* (1971a, 1971b). *Page numbers should be given whenever practicable.* A direct quotation should always be page referenced; a paraphrased statement should be page referenced if the article exceeds 10 pages. The reference section should be arranged alphabetically according to author's surname. Order of items: author(s), date of publication, title of article, journal or book title (written out in full rather than abbreviated), volume number, inclusive pages and (for books only) publisher and city, e.g.:

Doe, J. (1971a). The problem of Quaternary climatic changes. *Quaternary Research* 1, 1–10.

Doe, J., and Doe, J. (1972). "The Cause of Quaternary Climatic Changes." Vol. 1. Academic Press, New York.

Cohen, R. (1967). The equatorial ionosphere. *In* "Physics of Geomagnetic Phenomena." (S. Matsushita and W. H. Campbell, Eds.), Vol. 1, pp. 561–613. Academic Press, New York.

Author's alterations in excess of 10% of the cost of composition will be charged to the author.

Reprints. 50 reprints of each article will be supplied free of charge. Additional reprints can be ordered on the form accompanying galley proof.